



CALIFORNIA DEPARTMENT OF TRANSPORTATION SILANE REACTIVE PENETRATING SEALER, MATERIAL AUTHORIZATION PROCEDURE AND ACCEPTANCE CRITERIA

All Silane Reactive Penetrating Sealers to be used by the State of California Department of Transportation shall be on the Caltrans Authorized Material List before incorporation into any construction project. This Authorization and Acceptance Criteria establishes procedures to ensure that the Silane Reactive Penetrating Sealer material meets the requirements for the category of “Reactive Penetrating Sealers” within the South Coast Air Quality Management District (SCAQMD) Rule 1113 for Architectural Coatings (Amended February 5, 2016), the California Air Resources Board 2007 Suggested Control Measures for Architectural Coatings (SCM) and Caltrans acceptance criteria. Refer to: *Section 54-7 of the Caltrans 2015 Standard Specifications (SILANE WATERPROOFING TREATMENT)*.

I. Authorization of the Silane Reactive Penetrating Sealer requires the following:

1. Manufacturer provides:
 - A. Letter of intent specifying the type of product, applications and contact information.
 - B. Authorized Material List Submittal Form TL-9502, <http://cefs.dot.ca.gov/jsp/forms.jsp>
 - C. Product brochure with detailed performance information and properties.
 - D. Material Safety Data Sheets including chemical content and hazards.
 - E. Evaluation reports and test results from a 3rd party independent testing laboratory, for each product submitted for authorization.
2. All Silane Reactive Penetrating Sealers shall consist of an alkyl alkoxysilane as a 100 percent neat material or a 40 percent minimum, waterborne dispersion. Alkyl alkoxysilanes shall be an alkyl trimethoxy or triethoxy silane with alkyl groups of i-butyl, i-pentyl, i-octyl, n-octyl, singularly or in combination.
3. All Silane Reactive Penetrating Sealers shall meet the following performance and acceptance criteria:

Property	Test Method	Requirements	Explanation
Water Repellency, %	ASTM C97	80% min	Improve water repellency compared to untreated concrete/masonry sample
Water Vapor Transmission, grains/hr-ft ² @ 37.8°C ± 1.1°C and a relative humidity of 32 ± 2%	ASTM E96 / ASTM D6490	85% max	Must provide a breathable waterproof barrier that does not prevent or substantially retard water vapor transmission compared to an untreated concrete/masonry sample.
Total VOC's, g/L	ASTM D3960	350g/L max	Total volatile organic carbon(VOC) content including reacted VOC's
Perform as a Chloride Screen	NCHRP 244 Series I test	9.0% max	The calculated content of the solution absorbed, by the treated concrete/masonry sample, must be less than the original 9.2% Cl by wt. in the 15% NaCl solution.



4. Send the required paperwork to the Caltrans Transportation Laboratory in Sacramento, CA. All submittals go directly from the AML Product Coordinator to the AML Administrator.

California Department of Transportation Laboratory
Materials Engineering and Testing Services – MS#5
Chemical Testing Branch
5900 Folsom Blvd.
Sacramento, CA. 95819-4612

II. Caltrans will:

1. Ensure all required documentation is received.
2. Review the technical information.
3. Upon evaluation of the technical information and test results, issue an acceptance letter Valid for 7 years or a rejection letter.
4. Update the Caltrans Authorized Material List, if applicable.

III. Reauthorization:

1. Manufacturers should contact the Chemical Testing Branch 3 months prior to their products listed expiration date to schedule reauthorization.

If you have questions about the, SILANE REACTIVE PENETRATING SEALER, MATERIAL AUTHORIZATION PROCEDURE AND ACCEPTANCE CRITERIA, contact Barry Marcks at (916) 227-7918 or at Barry.Marcks@dot.ca.gov.